

# Technical Datasheet

## BackLED S CP G4



### Benefits

- Uniform illumination at high LED pitches thanks to Square Lens® Technology
- Compatible with mounting profile BA-MP-M-CP-2
- PCB and LEDs are protected inside a complete over-molded IP66 housing
- CRI >80 and 3SDCM
- Very long life time and 5 years guarantee

### Applications

- Backlighting of small and/or flat channel letters
- Backlighting of thin light boxes
- Permanent outdoor use in enclosed light boxes or channel letters

### Technical Operating Data

Product	Color	No. of LED-modules per chain	Voltage [V DC]*	Power /module [W]*	Radiance angle [°]*	Color Temp [K]* Wavelength [nm]*	Lum. Flux Chain/module [lm]*
BA-S-CP 865 G4	Cool Daylight	90	12	28,8 / 0.32	155	6500K	3510 / 39
BA-S-CP 840 G4	Cool White	90	12	28,8 / 0.32	155	4000K	3510 / 39
BA-S-CP 830 G4	Warm White	90	12	28,8 / 0.32	155	3000K	3420 / 38
BA-S-CP RED G4	Red	90	12	31,5 / 0.35	155	620-630 nm	1305 / 14,5

\*) Due to the special conditions of the manufacturing processes of LED the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data;  
All values are tested at  $t_a$  25 °C;

### Technical Features

- LED chain comprising 90 LED modules connected by flexible cables
- Each LED module contains 3 LEDs
- 155° light beam with Square Lens® technology
- Uniform light pattern on 50-100 mm light box depths
- Optimal operation on OPTOTRONIC® 12V power supplies (15 W, 30 W, 60 W, 150 W, 300 W)
- Dimmable
- Compatible with mounting profile BA-MP-M-CP-2
- 50.000 h Lifespan (L70B50) at max Tc
- Full encapsulation of the LED modules with ingress protection IP66



IP66<sup>1)</sup>



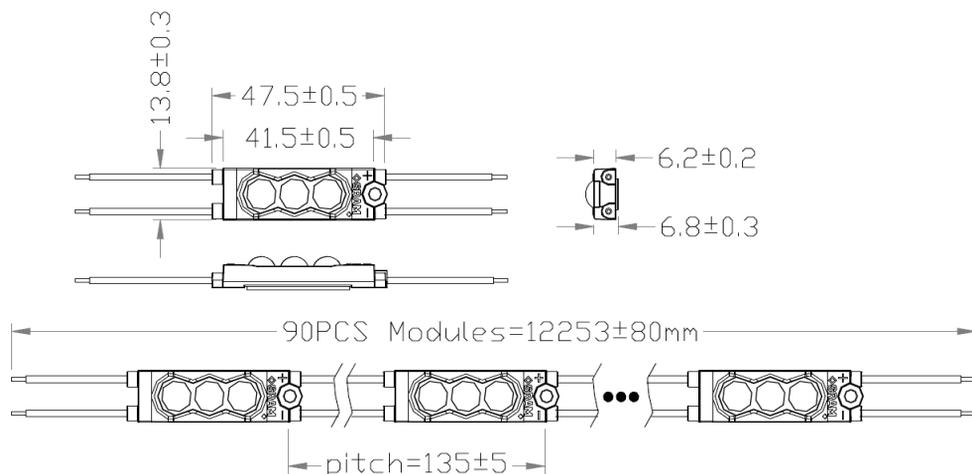
<sup>1)</sup>: The LED modules must not be operated in places which are directly exposed to atmospheric conditions.  
For outdoor applications, hence the LED module has to be protected by appropriate sealed enclosures or covers. Operation in or under water is prohibited.

## Minimum / Maximum Ratings

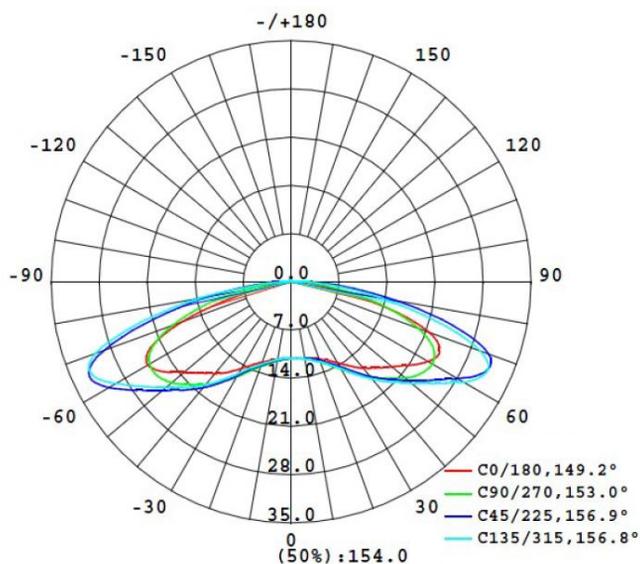
Product	Operating Temperature at $t_c$ -Point [°C]*	Storage Temperature $t_c$ -Point [°C]*	Voltage Range [V dc]*	Max case Temperature $t_c$ [°C]*	L70B50 Lifetime [h]
BA-S-CP 865 G4	-30 ... +65	-30 ... +85	12 ... 13	+65	50.000
BA-S-CP 840 G4	-30 ... +65	-30 ... +85	12 ... 13	+65	50.000
BA-S-CP 830 G4	-30 ... +65	-30 ... +85	12 ... 13	+65	50.000
BA-S-CP RED G4	-30 ... +65	-30 ... +85	12 ... 13	+65	50.000

\*) Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED Modules.  
Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED Modules.  
The temperature of the LED modules must be measured at the  $t_c$ -point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label.

## Dimensions



## Light Distribution



155° ( $\pm 10\%$ )  
Square-Ray Lens®

## Safety Information

- The LED module itself and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- To avoid mechanical damage, the LED modules should be attached securely to the intended substrate. Heavy vibration should be avoided.
- Once modules are glued by means of their tapes on the application surface, modules must not be removed and re-located. This would lead to mechanical stress and IP rate may not be granted as well as lifetime.

**In order to drive OSRAM LED-Modules safely, it is absolutely necessary to operate them with an electronically stabilized power supply protecting against short circuits, overload and overheating.**

For dimming applications attention should be paid to specific references in "OPTOTRONIC® Technical Guide". To also ease the luminaire/installation approval, electronic control gear for LED or LED modules must carry the CE mark.

In Europe the declarations of conformity must include the following standards:

CE: IEC 62471, IEC 60598-1, EN 60529, EN 62031, EN 55015, EN 61547.

Also check for the mark of an independent authorized certification institute.

Please see the relevant application guides for more detailed information.

**OSRAM OPTOTRONIC® electronic control gear complies to all relevant standards and guarantees safe operation.**

- Installation of LED modules (with power supplies) needs to be made with regard to all applicable electrical and safety standards.
- Observe correct polarity! Incorrect polarity will lead to no light emission and may cause damage of the LED module.
- Parallel connection is highly recommended as safe electrical operation mode. Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and damage the LED module.
- Cutting within the chain is allowed between the wiring of each module.
- Pay attention to ESD steps when mounting the module.
- When using power supplies other than OSRAM OPTOTRONIC®, in order to ensure continuous safe operation, the output voltage has to be 12.5V ±0.5V
  - A maximum of 937 modules can be operated with one OPTOTRONIC® FIT 12V 300W (857 modules for RED).
  - A maximum of 468 modules can be operated with one OPTOTRONIC® FIT 12V 150W (428 modules for RED).
  - A maximum of 187 modules can be operated with one OPTOTRONIC® FIT 12V 60W (171 modules for RED).
  - A maximum of 93 modules can be operated with one OPTOTRONIC® 12V 30W (85 modules for RED).
  - A maximum of 46 modules can be operated with one OPTOTRONIC® 12V 15W (42 modules for RED)
- LED modules are dimmable by means of PWM (pulse width modulation). It is recommended using the following OSRAM control gears: OPTOTRONIC® OT DIM, OT DALI DIM, OT BLE DIM.
- The LED modules must not be operated in places which are directly exposed to atmospheric conditions. For outdoor applications, hence the LED module has to be protected by appropriate enclosures or covers. Operation in or under water is prohibited.
- Each LED module is equipped with a pre-mounted double-sided adhesive tape which allows for optional or additional mounting. Due to varying properties of adherents and multiple external influences during the operation of the modules, OSRAM assumes no liability and provides no guarantee for a permanent adherence of the modules to the surface. OSRAM recommends fixation of the modules by means of suitable screws or with OSRAM compatible mounting profile.
- To ease installing operation on straight lines, modules are compatible with BA-MP-M-CP-2 click&play mounting profile.
- To ensure uniform illumination, a reflective matt white surface is generally recommended for all internal frame walls and back panels of light boxes.

## Ordering Guide

Product group	Product name	EAN 10*	S-Unit**
BackLED S Plus 865 G4	BA-S-CP 865 G4	4062172166553	25
BackLED S Plus 840 G4	BA-S-CP 840 G4	4062172166577	25
BackLED S Plus 830 G4	BA-S-CP 830 G4	4062172166591	25
BackLED S Plus RED G4	BA-S-CP RED G4	4062172166614	25



Product group	Product name	EAN 10*	S-Unit**
Mounting Profile	BA-MP-M-CP-2	4062172168410	50

\* EAN 10: Ordering number per single unit

\*\* S-Unit: Chain / accessory units per shipping box

Note: Typical performance data are subject to change without any further notice, particularly as LED technology evolves.

## Sales and Technical Support

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Germany

[www.osram.com](http://www.osram.com)  
[www.osram.com/backlighting](http://www.osram.com/backlighting)  
[www.osram.com/led-designer](http://www.osram.com/led-designer)

Sales and technical support is given by the local OSRAM subsidiaries.

On our world wide homepage all OSRAM subsidiaries are listed with complete address and phone numbers.